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Attorney Docket No. NOG-9002

In re patent application of
NAGATA et al.

#14M

Serial No. 09/380,583

Group Art Unit: 2858

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Title: ORIENTATION MEASURING INSTRUMENT

SUBMISSION OF FORMAL DRAWINGS

BOX ISSUE FEE

Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicant files herewith 27 sheets of formal drawings including Figures 1-25. It is requested that the formal drawings be entered in the application file.

Respectfully submitted,

Date: April 2, 2002

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01.02

FIG. 1
PRIOR ART

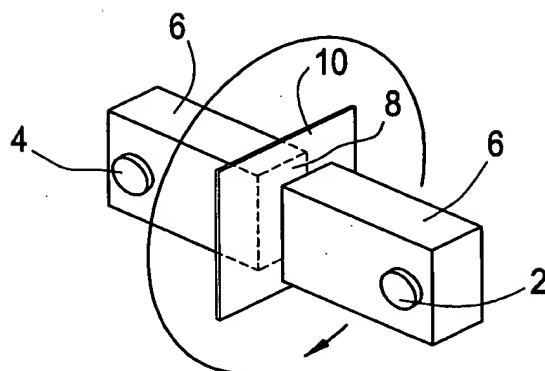


FIG. 2
PRIOR ART

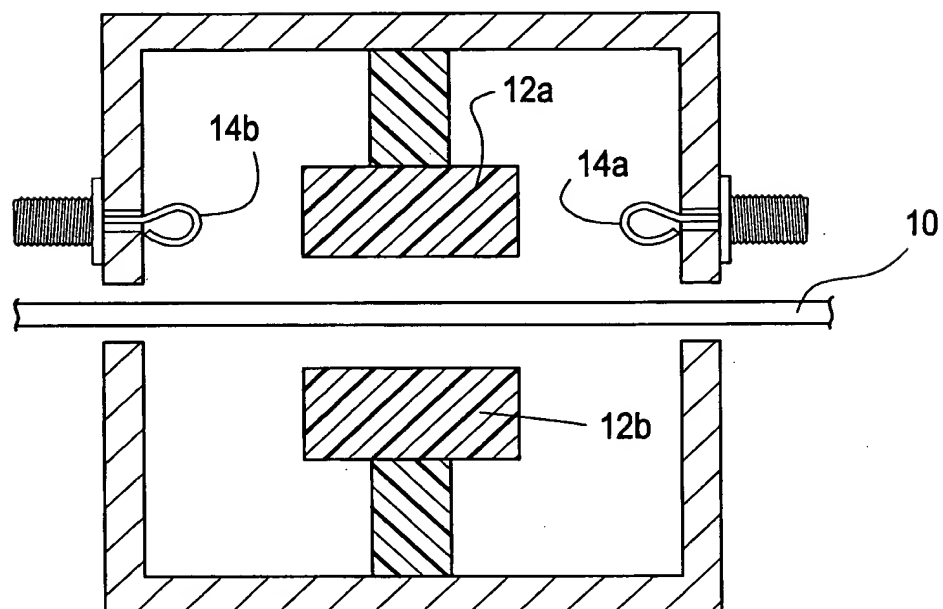


FIG. 3A

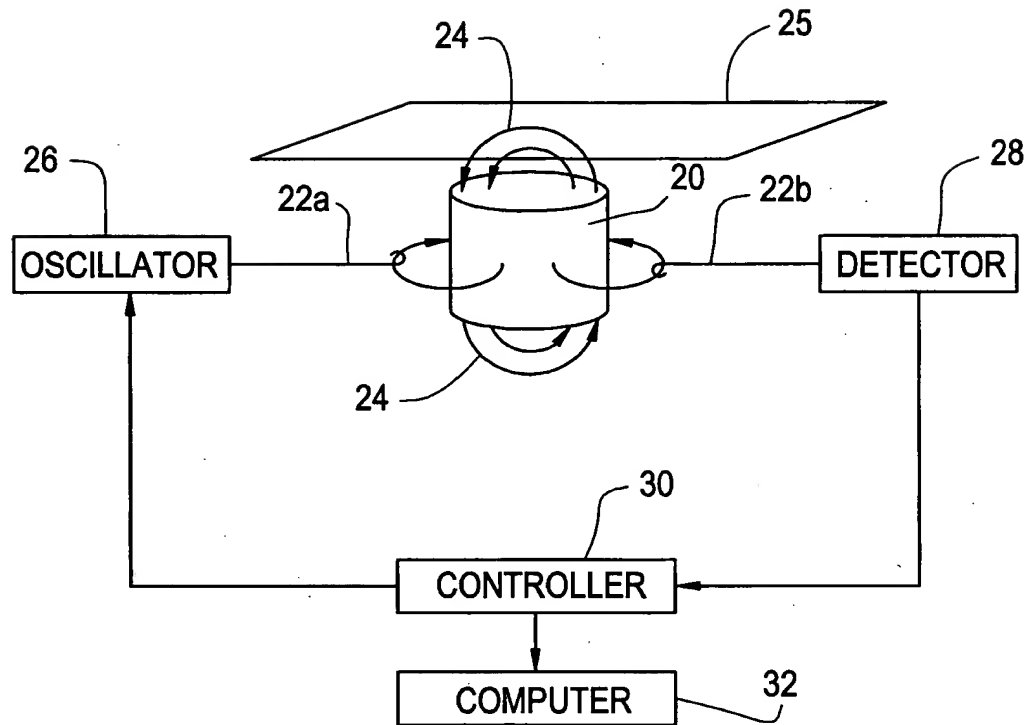


FIG. 3B

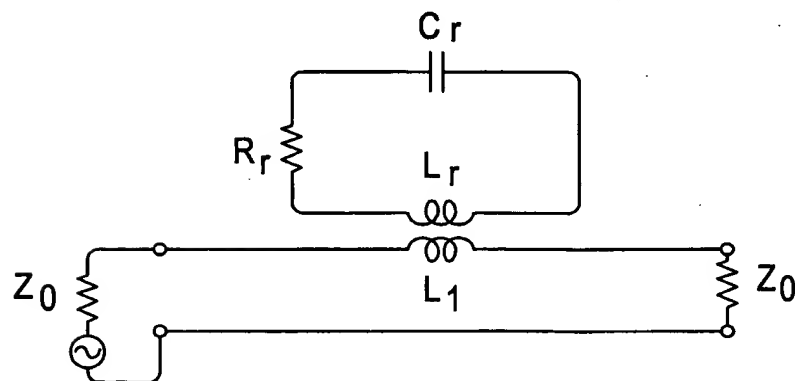


FIG. 4A

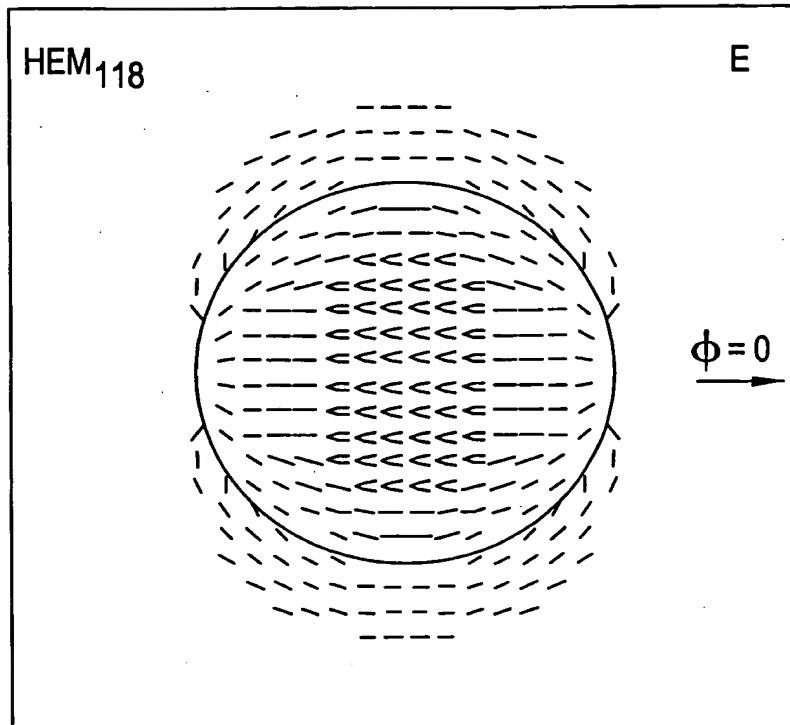


FIG. 4B

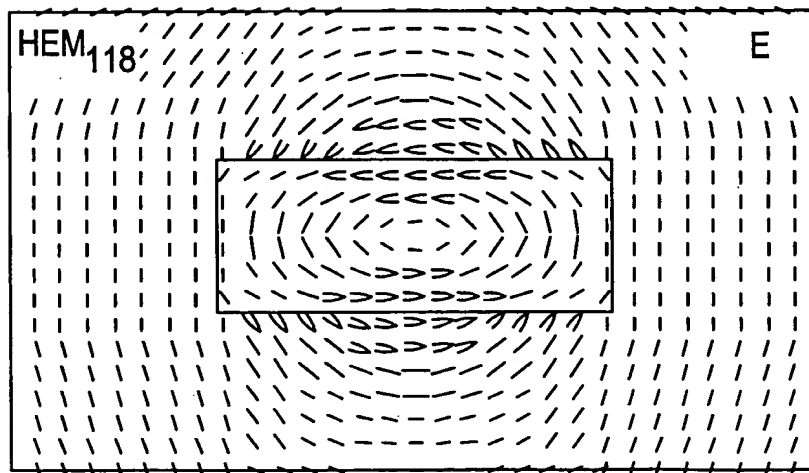


FIG. 5A

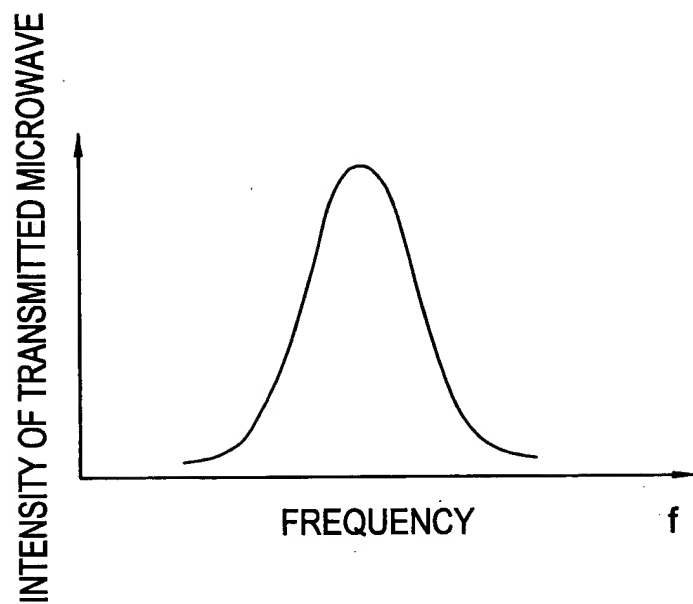
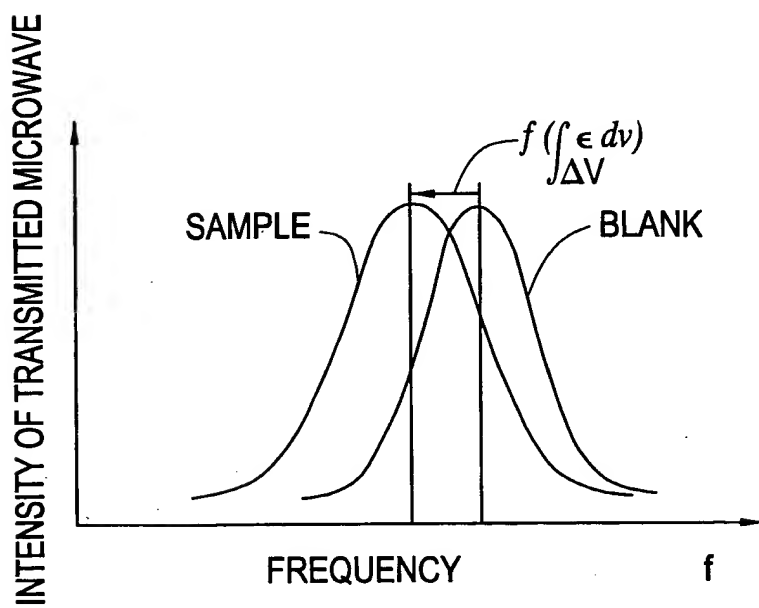


FIG. 5B



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FIG. 6A

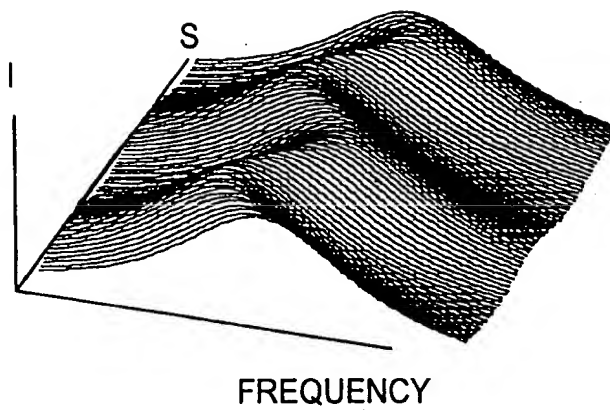


FIG. 6B

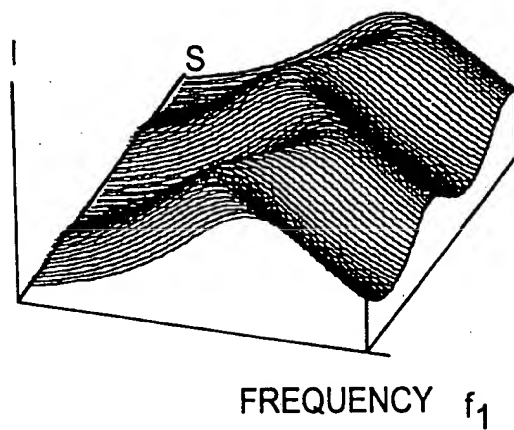


FIG. 7A

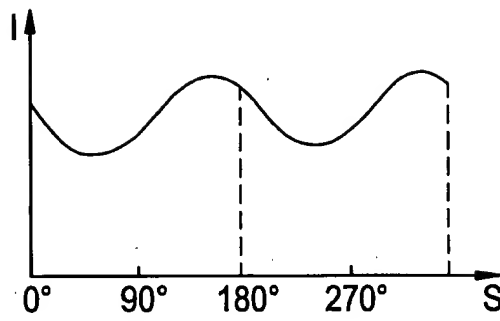


FIG. 7B

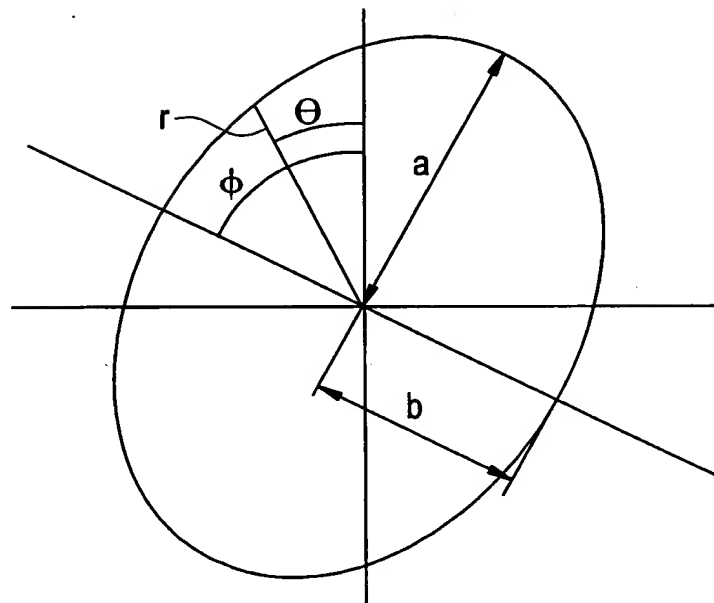
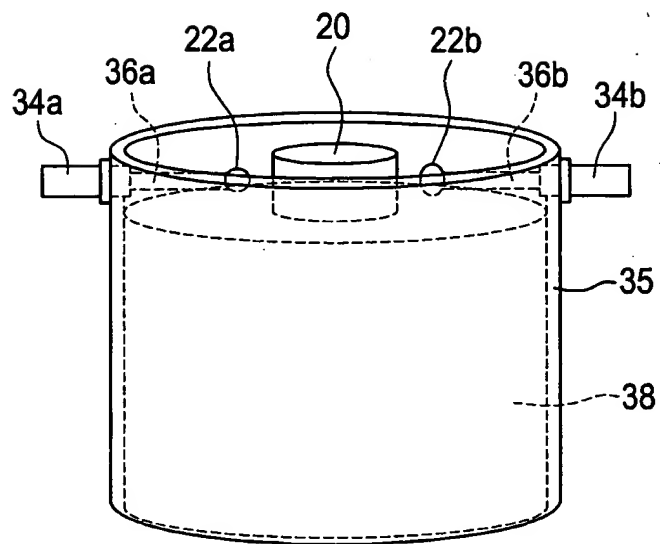
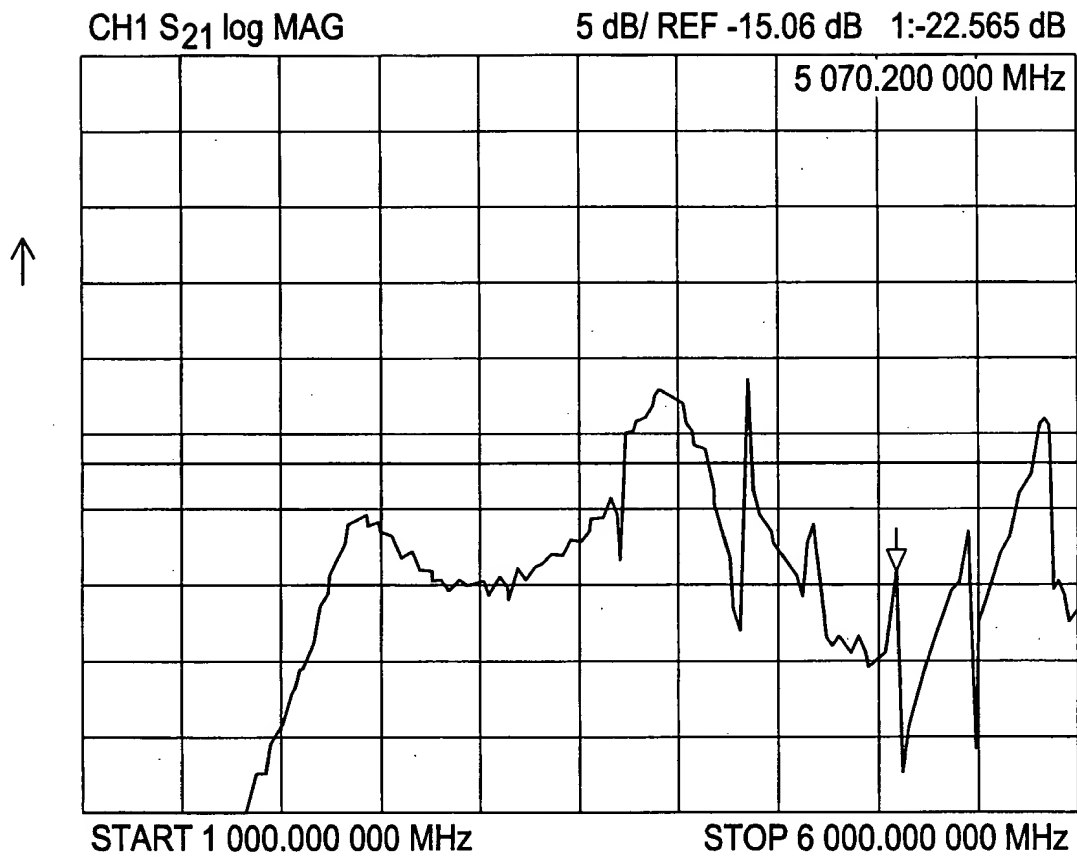


FIG. 8



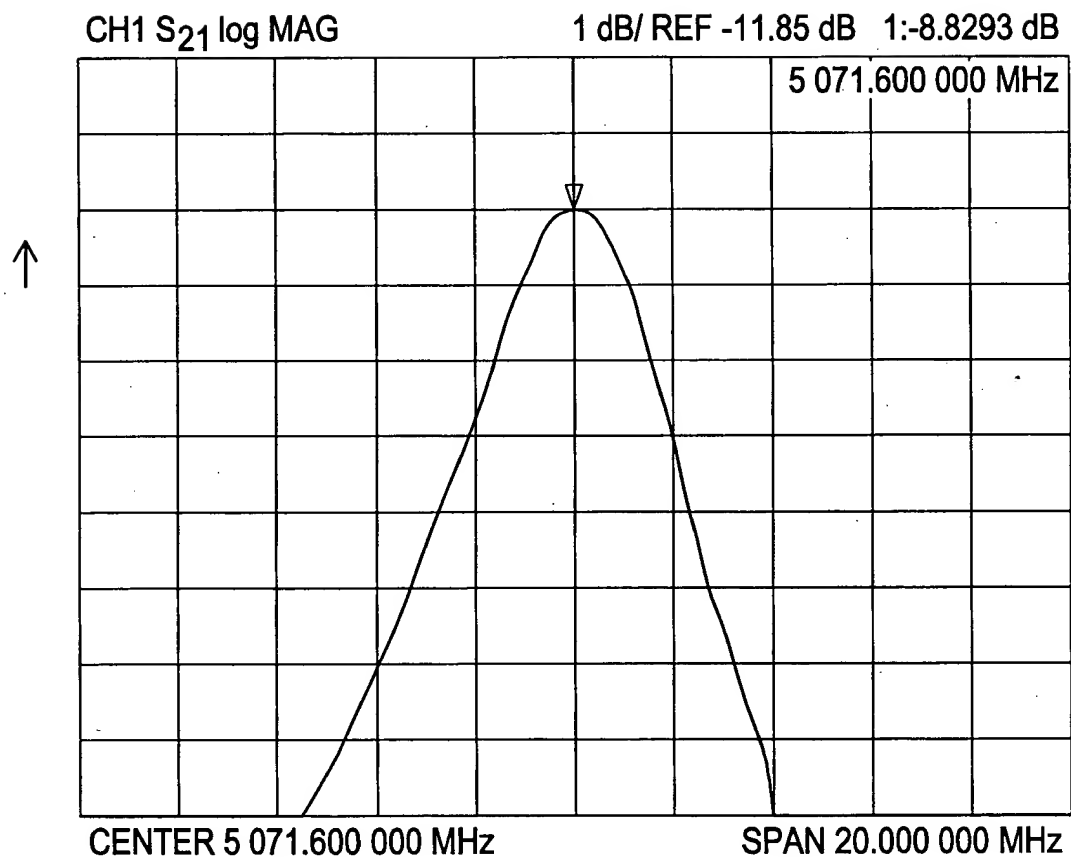
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FIG. 9A



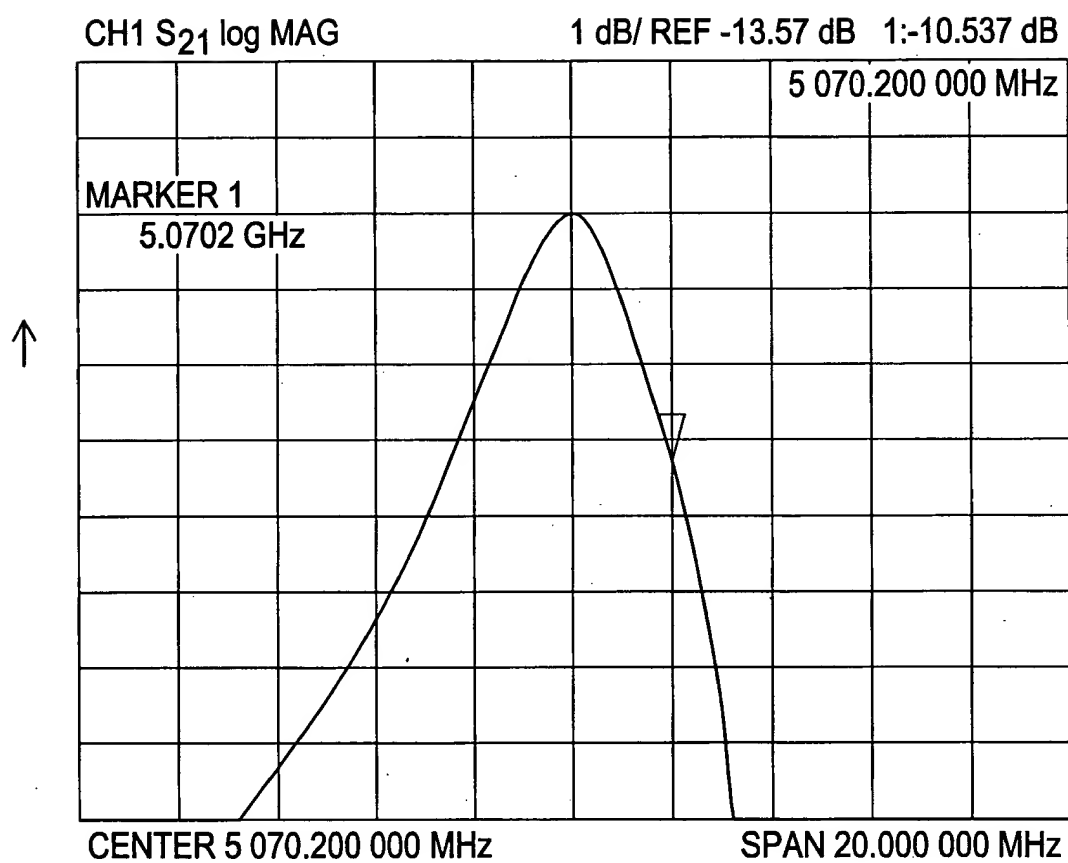
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FIG. 9B



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FIG. 10A



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FIG. 10B

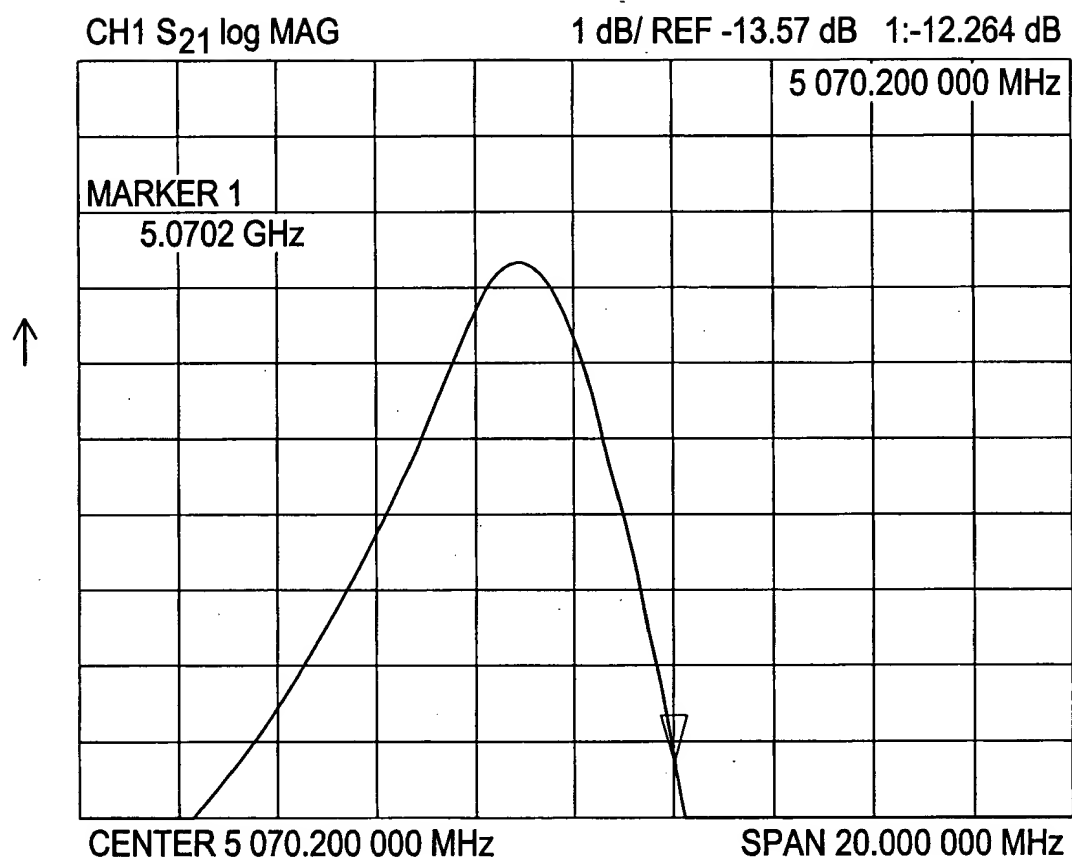


FIG. 11A

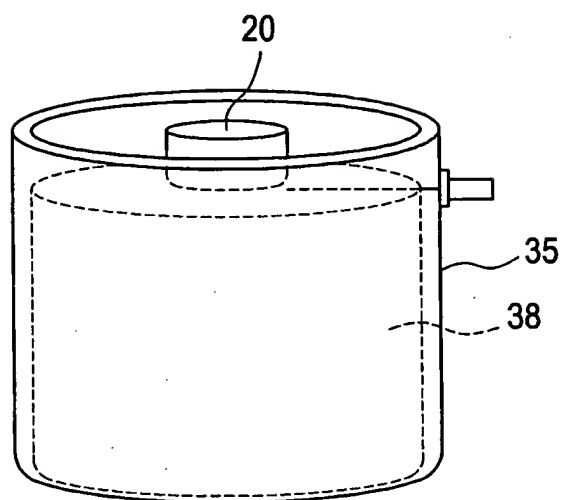


FIG. 11B

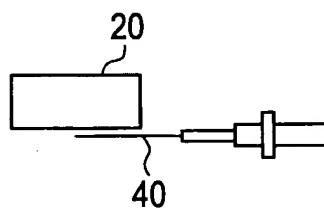


FIG. 12A

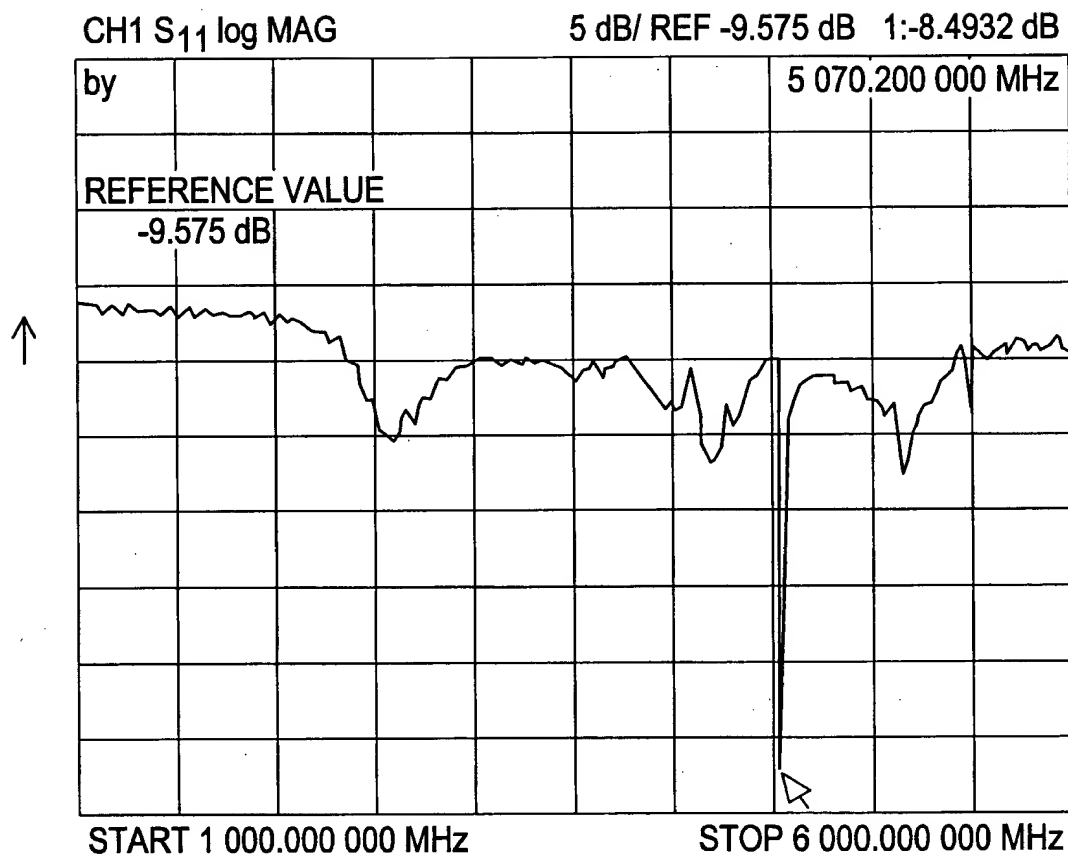


FIG. 12B

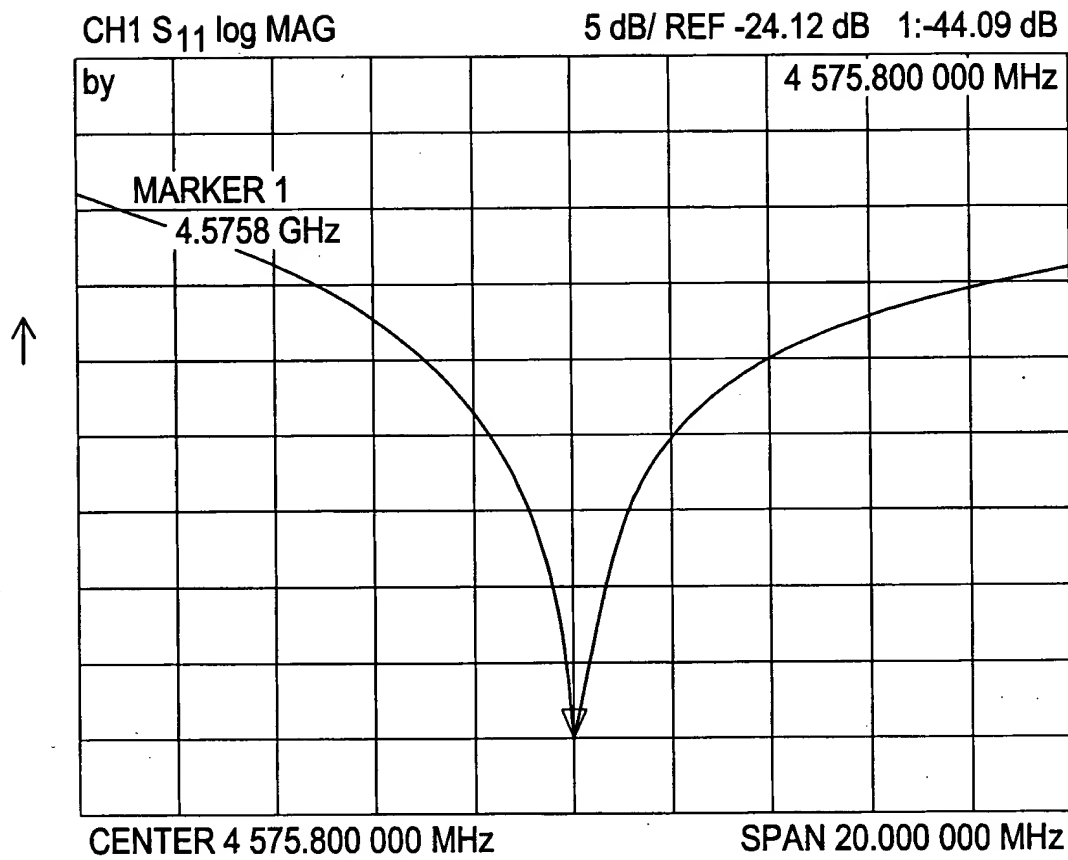


FIG. 13A

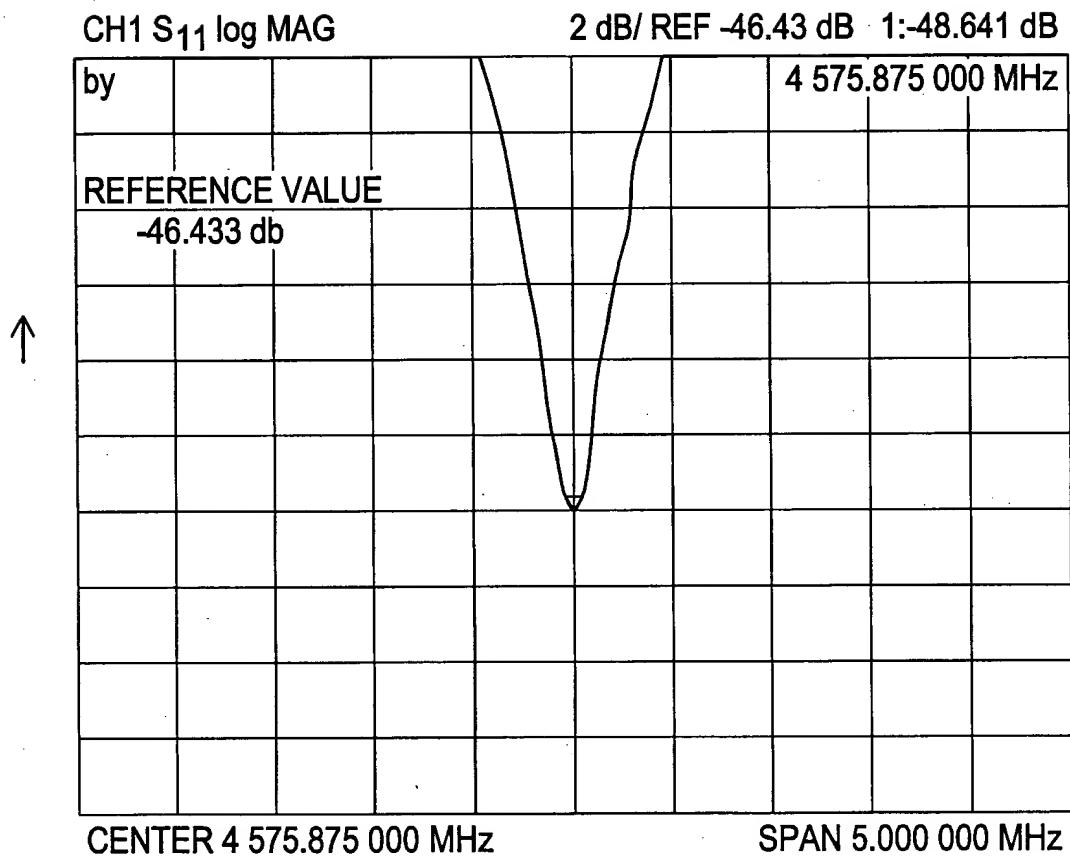


FIG. 13B

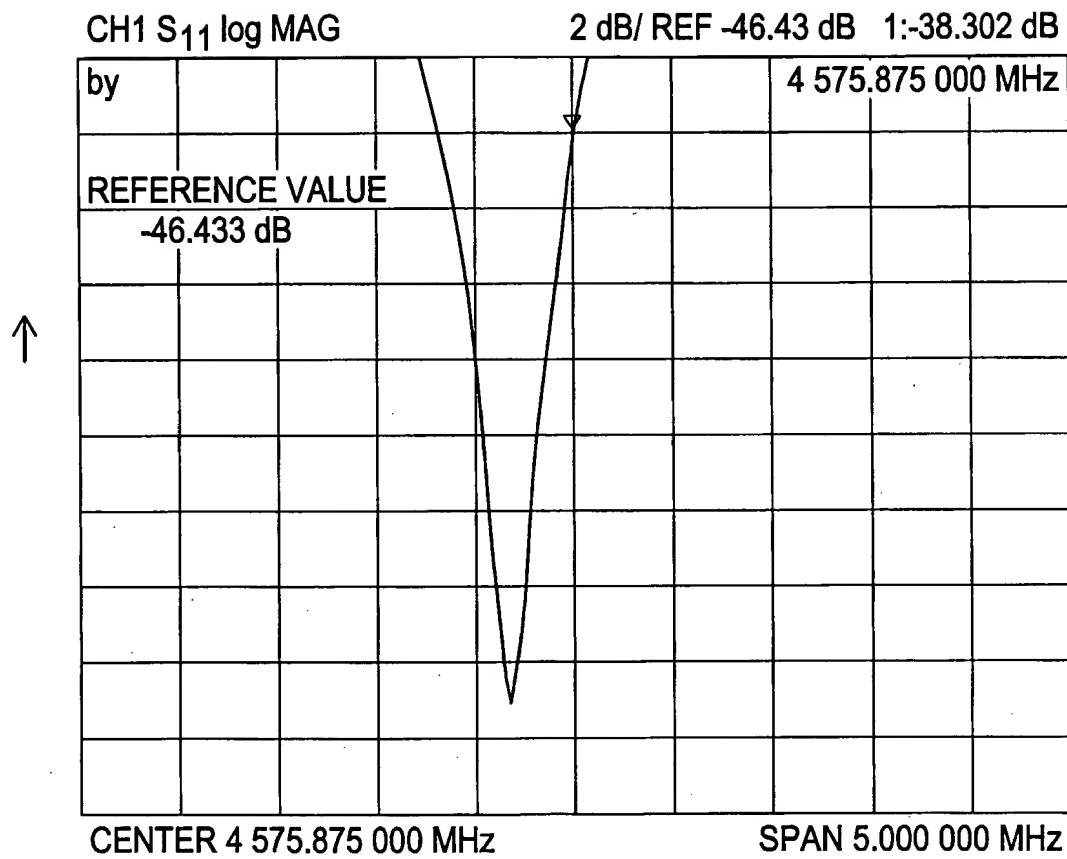


FIG. 14

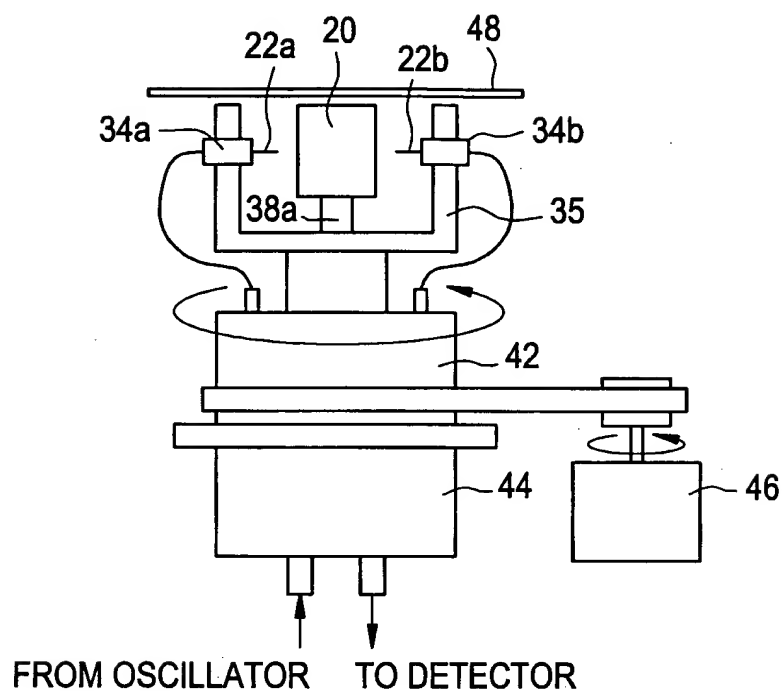


FIG. 15

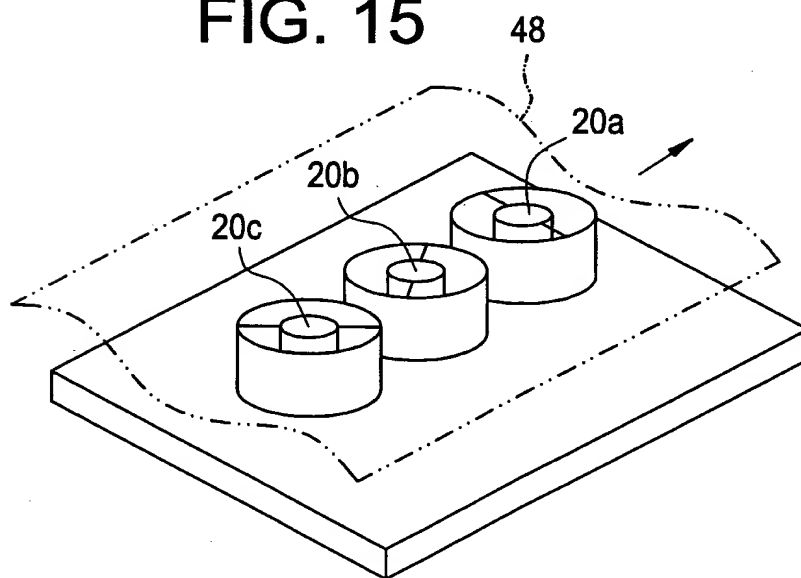


FIG. 16A

FIG. 16B

| a | 15mm | 15mm | 15mm |
|--------|------|------|------|
| MODE b | 19 | 30 | 16.5 |
| I | 19 | 16.5 | 11 |
| | B | E | D |






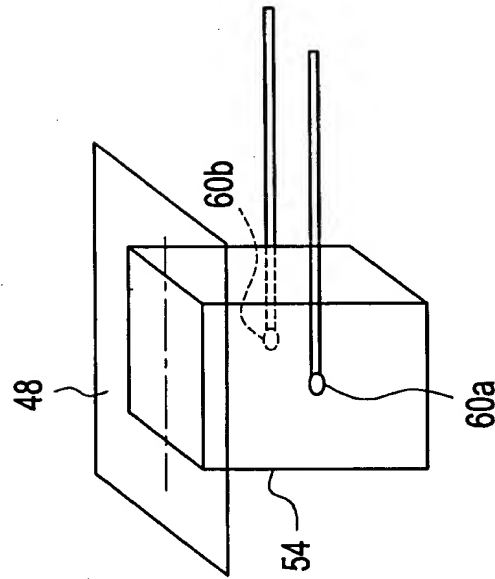
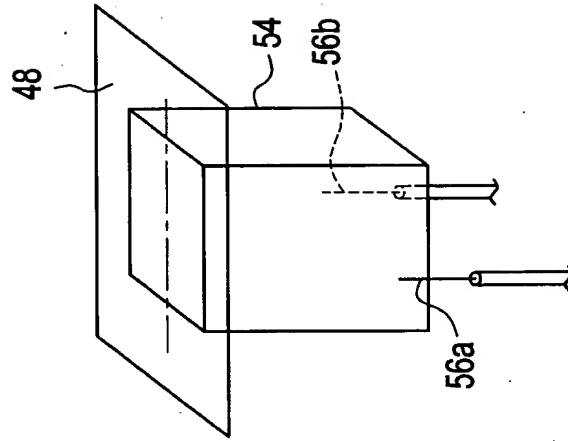
| | CALCULATED MEASURED VALUE | VALUE | CALCULATED MEASURED VALUE | VALUE |
|---|------------------------------|------------|------------------------------|-------|
| 101  | 1.791 GHz | 2.2 GHz | 1.834 | 2.1 |
| 102  | 2.555 | 2.833 | 2.783 | 3.061 |
| 201  | 3.397 | | 3.425 | |
| 103  | 3.625 | | 4.063 | |
| 202  | 3.865 | | 4.028 | |

FIG. 17A



EXCITATION BY LOOP ANTENNA

FIG. 17B



EXCITATION BY ROD ANTENNA

FIG. 18A

CAVITY RESONATOR

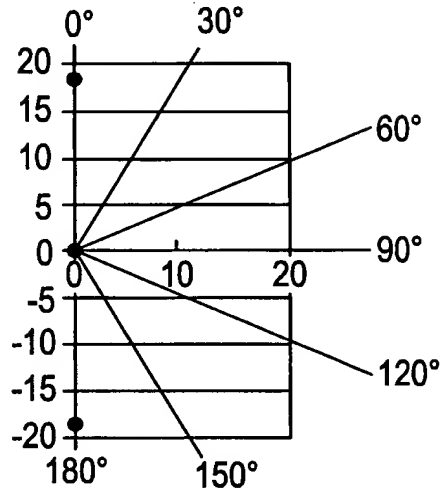
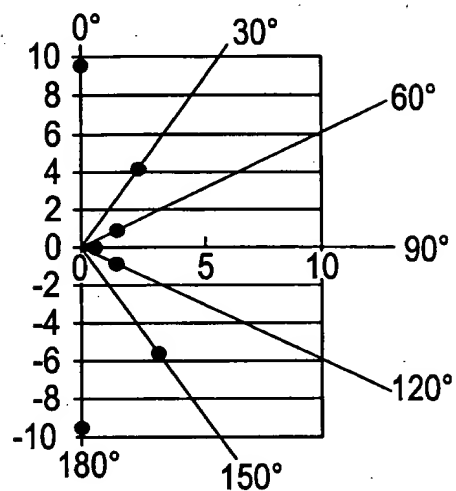
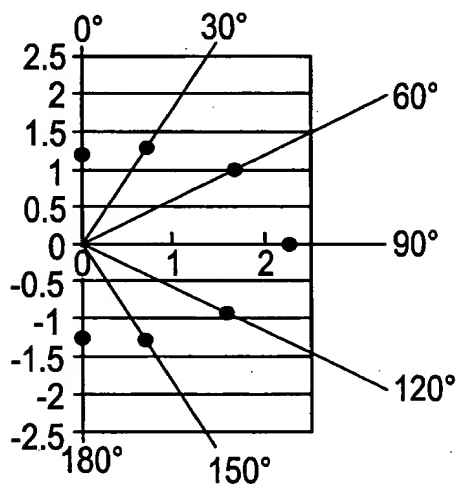
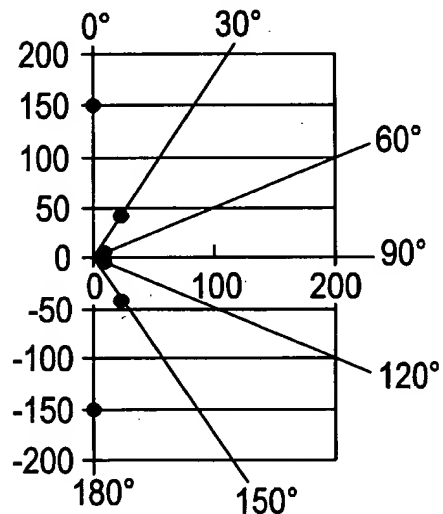
ELECTRIC FIELD DISTRIBUTION
BY ROD ANTENNA**FIG. 18B**CIRCULAR DIELECTRIC
RESONATORELECTRIC FIELD DISTRIBUTION
BY LOOP ANTENNA**FIG. 18C**SQUARE DIELECTRIC
RESONATORELECTRIC FIELD DISTRIBUTION
BY LOOP ANTENNA**FIG. 18D**SQUARE DIELECTRIC
RESONATORELECTRIC FIELD DISTRIBUTION
BY ROD ANTENNA

FIG. 19A

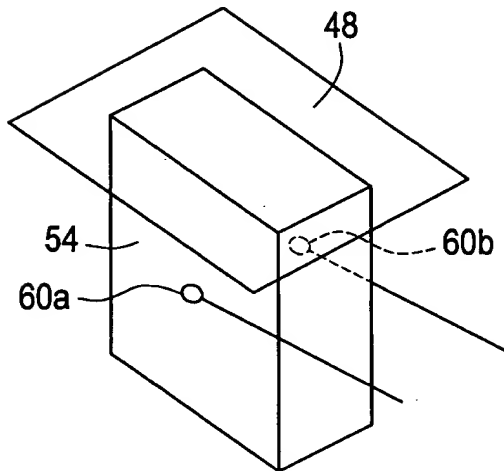


FIG. 19B

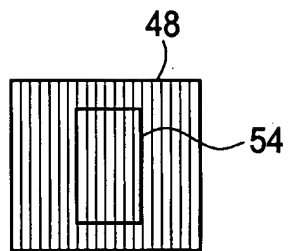


FIG. 19C

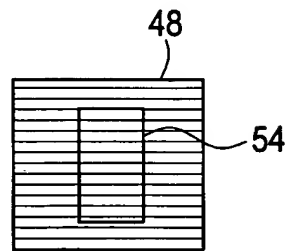
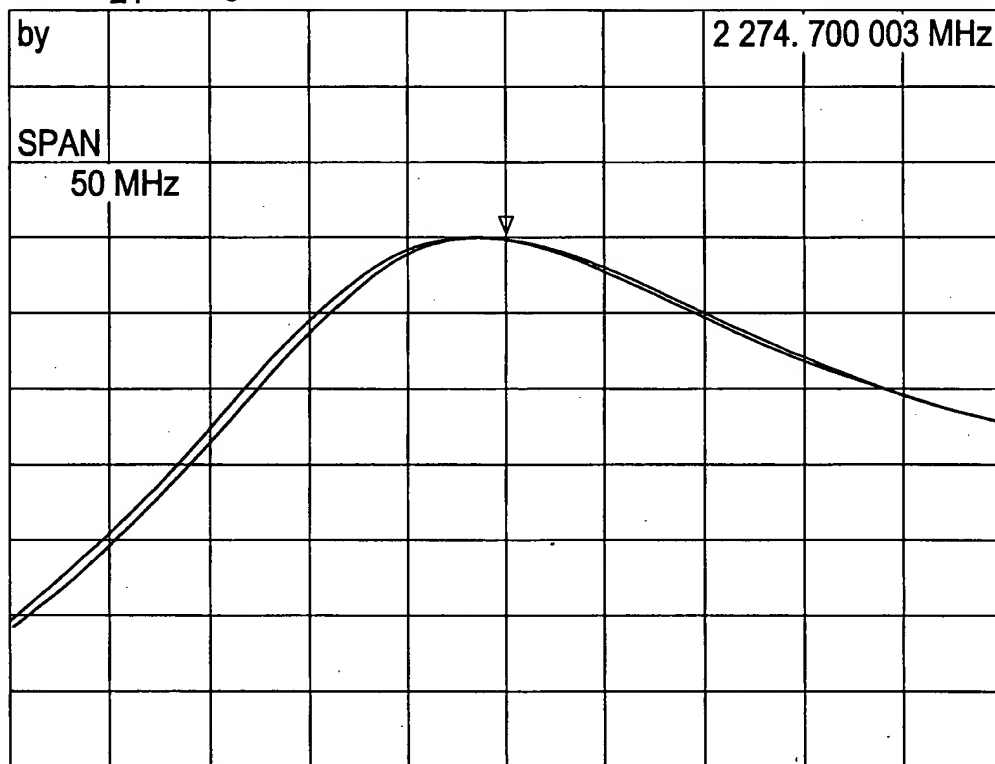


FIG. 19D

4 Jul 1997 10:45:10

CH1 S₂₁&M log MAG

2 dB/ REF -29.92 dB 1:-25.974 dB



CENTER 2 274.700 003 MHz

SPAN 50.000 000 MHz

FREQUENCY SHIFT → 0.6MHz

FIG. 20A

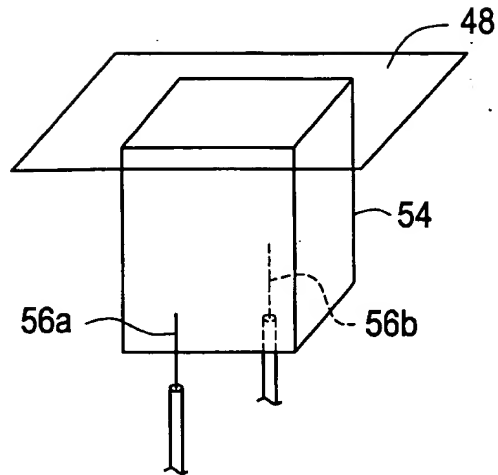


FIG. 20B

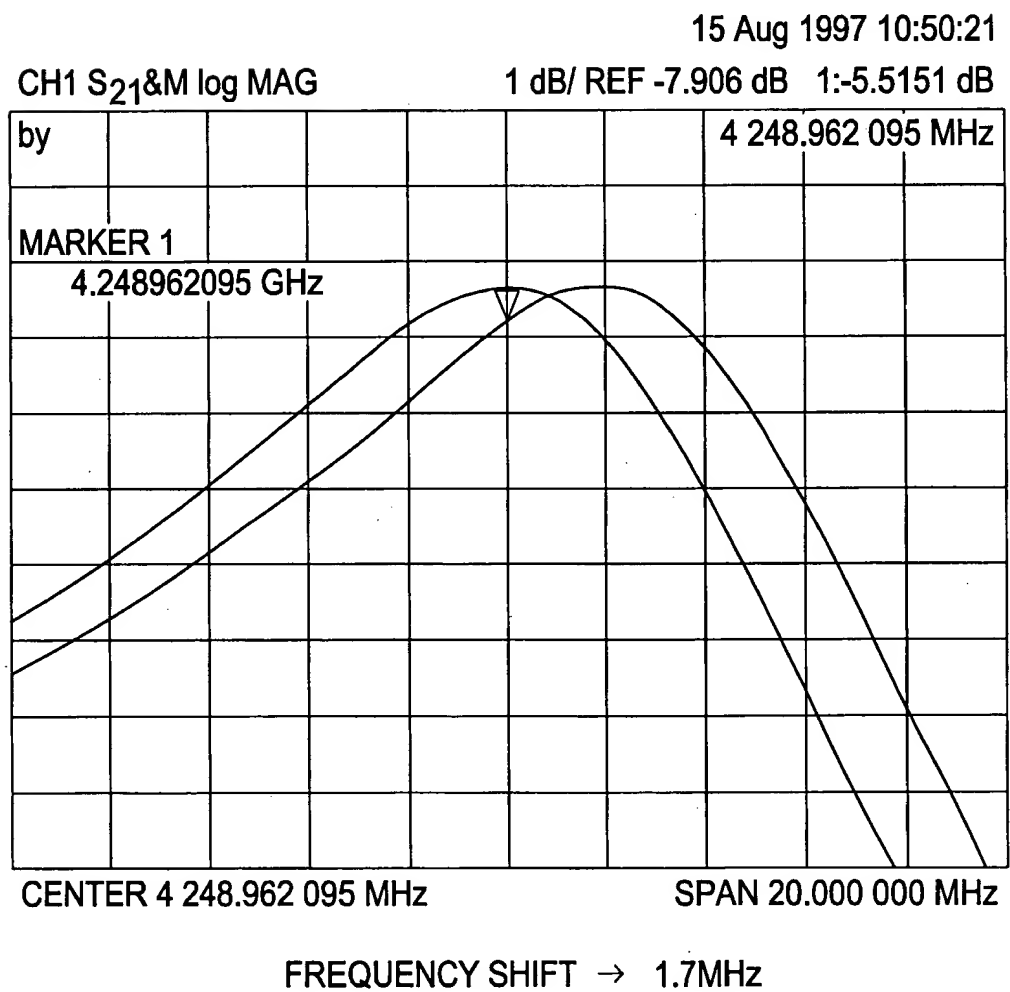


FIG. 21A

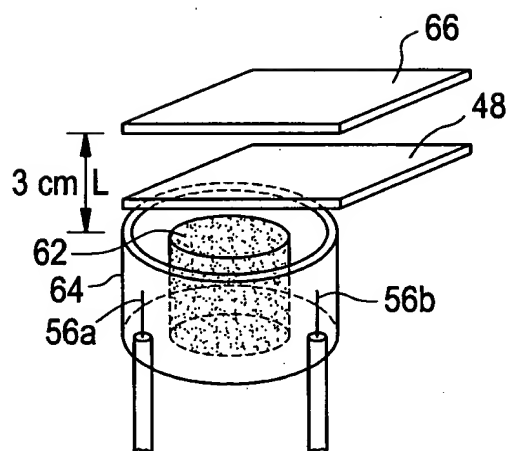


FIG. 21B

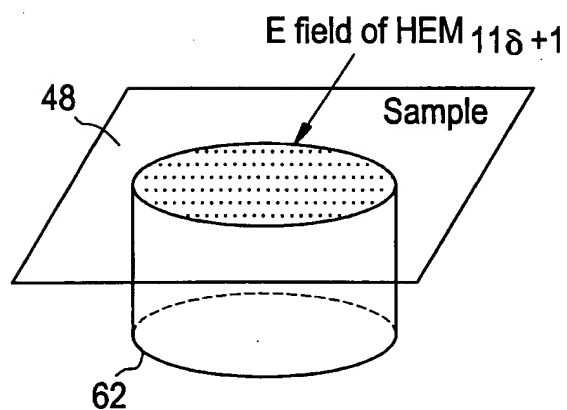


FIG. 22

CH1 S12 log MAG 10 dB/ REF 0 dB

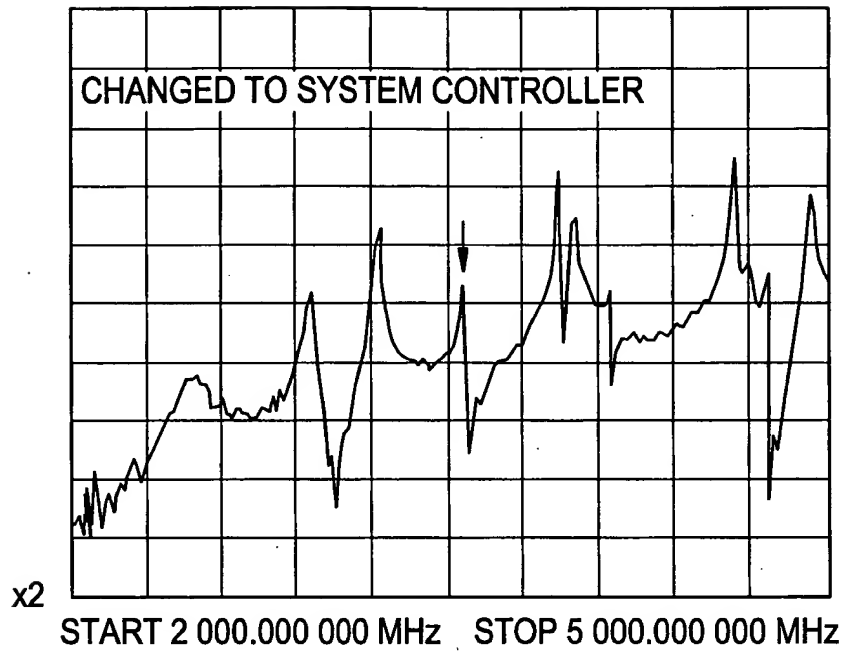


FIG. 23

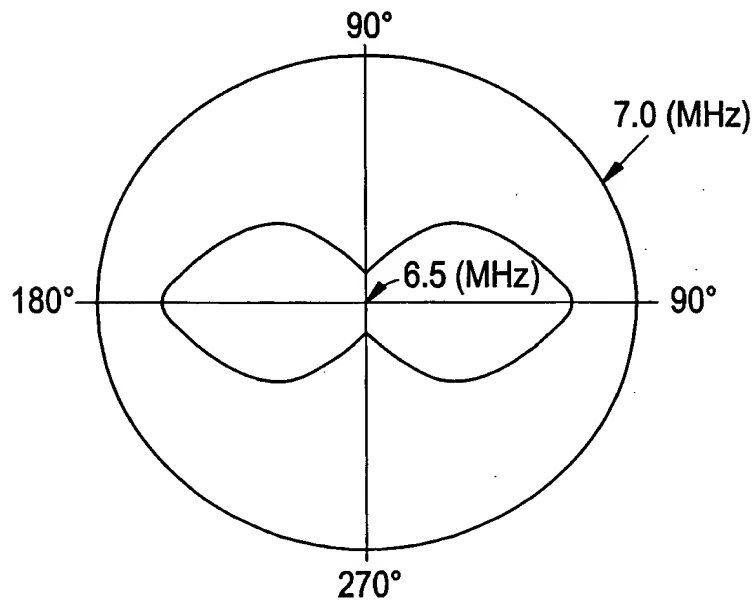


Fig. 24

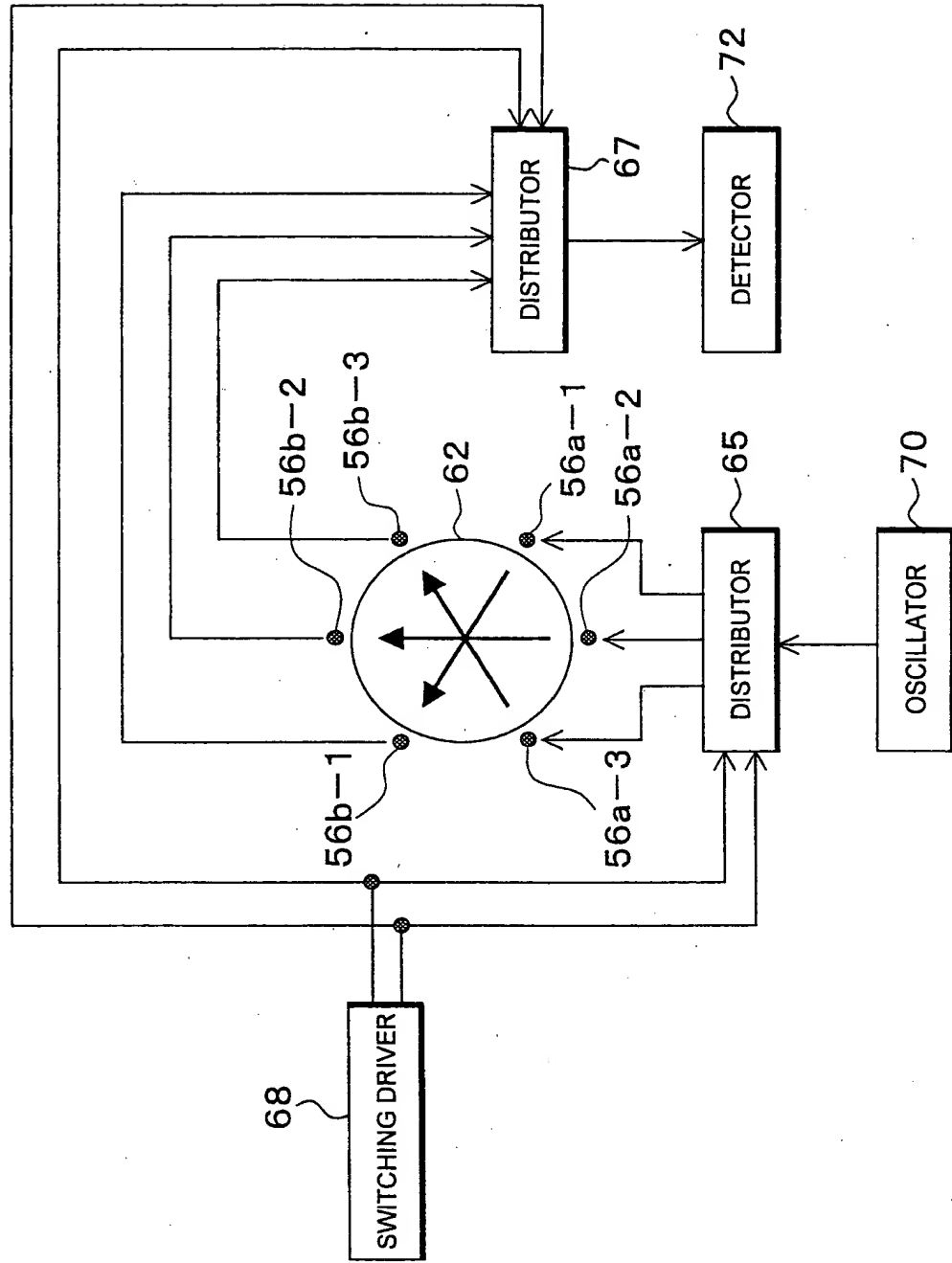


Fig. 25

